

The opinion in support of the decision being entered today is *not* binding
precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT ALAN HOULT and ANDREW JAMES TURNER

Appeal 2007-1704
Application 09/942,131
Technology Center 2800

Decided: September 26, 2007

Before JAMES D. THOMAS, JOSEPH F. RUGGIERO, and MAHSHID D.
SAADAT, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's
rejection of claims 1, 3-13, and 25-44. We have jurisdiction under 35 U.S.C.
§ 6(b).

We reverse.

Appellants' claimed invention relates to an infrared imaging microscope including a detector having an array of individual detector elements. The outputs of the detector elements are fed in parallel to processing circuitry for image processing of the detector element outputs. According to Appellants, the relatively small amount of detector elements used (approximately 3 to 100 individual detector elements) enables output processing to be performed without complex multiplexing circuitry and thus avoids the reduction in signal to noise ratio associated with large scale multiplexing. (Specification 3-5).

Claim 1 is illustrative of the invention and reads as follows:

1. An IR microscope comprising a sample stage, optical components for guiding analyzing radiation so that it is incident on a sample to be analyzed which is carried on said stage, and for guiding radiation from the sample to a detector,

said detector comprises an array of individual detector elements, the outputs of the detector elements being directly fed in parallel to processing circuitry for image processing of the detector element outputs, each detector element having its own associated detection circuitry;

said array of detectors comprising from approximately 3 to 100 individual detector elements.

The Examiner relies on the following prior art references to show unpatentability:

Taylor	US 5,091,646	Feb. 25, 1992
Harris	US 5,120,953	Jun. 9, 1992
Iddan	US 5,512,749	Apr. 30, 1996
Dumas	US 5,712,685	Jan. 27, 1998
Dukor	US 6,274,871 B1	Aug. 14, 2001
		(filed Oct. 22, 1998)

Schanz

US 6,396,048

May 28, 2002
(filed Aug. 14, 1997)

Claims 1, 3-13, and 25-44, all of the appealed claims, stand rejected under 35 U.S.C. § 103(a). As evidence of obviousness, the Examiner offers the combination of Dukor and Schanz with respect to claims 1, 3-6, 13, and 25, adds Iddan to the basic combination with respect to claims 26-43, adds Dumas to the basic combination with respect to claims 8-12, adds Taylor to the basic combination with respect to claim 7, and adds Harris to the basic combination with respect to claim 44.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs and Answer for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived [see 37 C.F.R. § 41.37(c)(1)(vii)].

ISSUES

- (1) Under 35 U.S.C § 103(a), with respect to appealed claims 1, 3-6, 13, and 25, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Dukor and Schanz to render the claimed invention unpatentable?
- (2) Under 35 U.S.C § 103(a), with respect to appealed claims 7-12 and 26-44, would the ordinarily skilled artisan have found it obvious to modify the combination of Dukor and Schanz by separately adding Iddan, Dumas, Harris, and Taylor to render the claimed invention unpatentable?

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007)(quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

ANALYSIS

Appellants’ arguments in response to the obviousness rejection of appealed independent claims 1, 25, 40, and 44 assert a failure by the Examiner to establish a *prima facie* case of obviousness since, even if proper motivation for the proposed combination were established, all of the claimed limitations would not be taught or suggested by the applied prior art references. In particular, Appellants contend (Br. 6-9; Reply Br. 2-3) that none of the applied prior art discloses a detector array with a number of

detector elements that even approximates the specifically claimed range of “approximately 3 to 100 individual detector elements,” a limitation which is present in each of the appealed independent claims. Appellants point out that, in contrast to the claimed “approximately 3 to 100 individual detector elements,” Dukor, the primary reference relied upon by the Examiner, discloses a 64x64 detector array, i.e., an array having 4,096 individual detector elements.

After reviewing the disclosure of Dukor in light of the arguments of record, we are in general agreement with Appellants’ position as stated in the Briefs. The Examiner’s stated position (Answer 3, 4, 11, and 12) recognizes that Dukor does not disclose the claimed detector array having “approximately 3 to 100 individual detector elements.” Nevertheless, the Examiner contends that the claimed number of approximately 3 to 100 detector elements is a mere obvious variation of the 4,096 element array disclosed by Dukor. According to the Examiner (*id.*, at 12), “[i]t is well known to adjust the number of detector elements based upon the desired resolution/object size.”

We find the record before us, however, to be totally devoid of any evidence to support the Examiner’s conclusion. The Examiner has directed attention to column 6, lines 26-30 of Dukor which, according to the Examiner (Answer 4), teaches that the size of a detector array is dependent upon desired resolution. We do not find in this cited passage, or elsewhere in Dukor, any such teaching. The cited passage from Dukor merely describes the size of the pixels in the detector array in correspondence to examined cell size, not a suggestion to base the number of detector array elements on desired resolution.

We also make the observation that, while the Examiner's analysis emphasizes the relationship of the number of detector elements to desired resolution, the physical size of the detector array, as well as the density of the detector arrangement within the array, are also factors which have an impact on resolution. We find no teachings, however, in any of the cited prior art which relate desired resolution to physical array size or density, let alone any relevant teachings which relate physical size or density to the specifically claimed numerical range of detector elements.

We have also reviewed the Schanz reference, applied by the Examiner to address the claimed parallel processing feature, but find nothing which overcomes the deficiencies of Dukor in disclosing the specifically claimed number of individual detector elements. Similarly, we also find no disclosure in any of the cited Iddan, Dumas, Harris, and Taylor references, applied by the Examiner to address various features of the dependent claims, which would overcome the innate deficiencies of Dukor discussed *supra*.

To summarize, it does not matter how strong the Examiner's convictions are that the claimed invention would have been obvious, or whether we might have an intuitive belief that the claimed invention would have been obvious within the meaning of 35 U.S.C. § 103. Neither circumstance is a substitute for evidence lacking in the record before us.

In view of the above discussion, we are of the opinion that the applied prior art references, even if combined, do not support the obviousness rejection. We, therefore, do not sustain the Examiner's 35 U.S.C. § 103(a) rejection of independent claims 1, 25, 40, and 44, nor of claims 3-13, 26-39, and 41-43 dependent thereon.

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CONCLUSION

In view of the foregoing, we reverse the Examiner's 35 U.S.C.
§ 103(a) rejections of appealed claims 1, 3-13, and 25-44.

REVERSED

tdl/gw

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